



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,593	08/29/2003	Alan G. Wolfe	29966/US/2	9287

7590 10/04/2005

Steven H. Arterberry, Esq.
DORSEY & WHITNEY LLP
Suite 3400
1420 Fifth Avenue
Seattle, WA 98101

EXAMINER

NGUYEN, CHANH DUY

ART UNIT	PAPER NUMBER
----------	--------------

2675

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/651,593

Applicant(s)

WOLFE, ALAN G.

Examiner

Chanh Nguyen

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Preliminary Amendment

The preliminary amendment filed on August 29, 2003 has been entered and considered by examiner.

Information Disclosure Statement

1. The references listed on the Information Disclosure Statement filed on August 29, 2003 has been considered by examiner (see attached PTO-1449).

Drawings

2. The drawings are objected to because Figures 5-7 do not label the rectangular boxes as required by Rule 1.83. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2675

4. Claims 12-16, 20-23, 28, 30 and 37-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumoto (U.S. Patent No. 5,877,844).

As to claim 12, Matsumoto discloses an apparatus for masking defects in a visual display including a visual display unit (LCD 20) having a plurality of display elements (pixels shown in Figure 4), a translation unit (28, 64) coupled to the visual display unit (20) that is structured to impart motion to the display unit (20); see column 5, line 5, lines 56-65, column 6, lines 55-60, column 7, lines 12-16. Matsumoto teaches a display signal source (30) capable of providing input signals (i.e. image signal from a negative image storing section 30 representing black or white image signals displayed on the LCD 20; see column 5, lines 53-56 and line 66 through column 6, line 3, column 6, lines 28-33) to the display elements (pixels shown in Figure 4) on the surface of the visual display (LCD 20); see column 5, line 66 through column 6, line 3.

Matsumoto teaches a control unit (22, 24) coupled to the translation unit (28, 64) and the display signal source (30) that is structured to exchange signals with the translation unit (28, 64) and the display signal source (30) to controllably direct the movement of the display unit (20) and to compensatingly shift the input signal (black or white) in the signal source (30), the shifted signals concealing display element defects on the display surface; see Figure. 4 and column 7, line 53 through column 8, lines 53-63, column 9, lines 22-29, column 11, lines 42-50.

As to claim 23, this claim differs from claim 12 in that the limitation "one of the display element is defective" is additionally recited. Matsumoto clearly teaches defective pixels (pixels marked with X as shown in Fig.4). In addition, the limitation

Art Unit: 2675

"shift the display in a predetermined direction" is clearly taught by Matsumoto (i.e. x, y directions; see Fig. 3a and column 7, lines 33-52).

As to claims 13-15, Matsumoto clearly teaches the visual display unit moving two directions (x and y), the second direction (y) being perpendicular to the first office action (see Figure 3A and column 7, lines 33-52).

As to claim 16, Matsumoto clearly teaches translation unit being mechanically coupled to the visual display unit (i.e. using pressing member, coil springs associated with piezoelectric element for moving the display; see column 6, line 47 through column 7, line 16).

As to claims 20-22, 37-39, Matsumoto teaches different type such as CRT, LCD, ELD which reads on the claimed cathode ray tube, liquid crystal, field emission display as recited in the claims 20-22 (see column 24, lines 48-65).

As to claim 28, Matsumoto teaches the translation device (28, 64) including a first actuator (piezoelectric 28) to impart a first motion (X direction) to the display device, and a second actuator (piezoelectric 64) to impart a second motion (Y direction) to the display device, the second motion (Y direction) being approximately perpendicular to the first motion (X direction) (see column 6, lines 55-60 and column 7, lines 32-42).

As to claim 30, Matsumoto teaches the actuator (28, 64) including piezoelectric actuators (see column 6, lines 55-56).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17 and 24-27, 29 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto in view of Elliot, Jr (U.S. Patent No. 5,806,424)).

As to claim 17, note the discussion of Matsumoto above, Matsumoto does not mention the use of electromagnetic for moving the display panel. Elliot teaches a well-known in the art the use of magnetic to move a screen; see column 14, lines 19-2.

Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used magnetic for moving screen as taught by Elliot to the device of Matsumoto since magnetic moving device is more compact than using mechanical motion system.

As to claim 24, Elliot teaches the display device further including a first sliding means (e.g., wheel 44 and plastic line 46) that constrains movement of the display to movement in a first direction (i.e. X direction) (see Fig. 9a). Elliot teaches a second sliding means (e.g., wheel 45 and plastic line 47) that constrains movement of the display to movement in a second direction (i.e. Y direction) (see Fig. 9b) (see column 15, line 60 through column 16, line 8). Since the wheels (44, 45) each have a track or groove for guiding the path of plastic lines (46, 47), it is clear that there is a friction between the wheel and the line that constrains movement of the display.

Art Unit: 2675

As to claim 25, Elliot teaches that "the display has the ability to show movement of the image in all directions, i.e., X, Y and on a rotary axis" (see column 17, lines 44-47). Thus, it would have been obvious that a third sliding means would be designed the same way as first and second sliding means in Elliot so that the display can move in rotary direction which perpendicular to the X and Y directions.

As to claim 26, Elliot teaches the wheels (44, 45) and plastic lines (46, 47) for the purpose of sliding the display device in Elliot. These wheels (44, 45) and plastic lines (46, 47) reads on linear bearings as recited in the claim.

As to claim 27, using linear gas lubricated bearing for moving or sliding any device is known in that art. For, example, examiner cites the reference of McMurtry et al (U.S. Patent No. 5,374,125) to teach a well-known using linear gas lubricated bearing.

As to claim 29, Elliot teaches using two actuators (40, 41) to impart the motion of display in two motions (or two directions X and Y). Elliot further teaches that "the display has the ability to show movement of the image in all directions, i.e., X, Y and on a rotary axis" (see column 17, lines 44-47). It would have been obvious that a third actuator should be provided in the translation device of Elliot since if the device does not have third actuator, then the third direction (i.e. rotary axis) cannot be performed. That is not Elliot' device described in column 17, lines 44-47.

As to claim 33, Elliot teaches a first position sensor (13a) to sense a first position of the display device to a first direction (X direction), a second position sensor (13b) to sense a second position of the display relative to a second direction (Y direction), the

Art Unit: 2675

second motion (Y direction) being approximately perpendicular to the first motion (X direction) (see column 8, lines 1-6, column 10, lines 35-40).

As to claim 34, Elliot teaches using two position sensor (13a, 13b) to sense a first and second position of the display device to a first direction (X direction) and (Y direction). Elliot further teaches that "the display has the ability to show movement of the image in all directions, i.e., X, Y and on a rotary axis" (see column 17, lines 44-47). It would have been obvious that a third sensor should be provided in the control device of Elliot so that the third position of the display device to a third direction (i.e., rotary axis) can be detected as the same way as X, Y position sensors taught by Elliot.

As to claims 35-36, using linear variable differential transformer and variable capacitance displacement sensor are known in the art. For example, examiner cites the reference to teach van der Kuur (U.S. 5,123,175) teaches a well-known linear variable differential transformer as well as capacitance displacement sensor.

7. Claims 18-19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto in view of Walker (U.S. Patent No. 6,359,662).

As to claim 19, note the discussion of Matsumoto above, Matsumoto does not mention the image source being a video signal source. Walker teaches the image source (204) including digital video disk input (DVD); see column 7, lines 28-40. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have substituted video signal source as taught by Walker to the negative

Art Unit: 2675

image storing section so that the image is capable of being input to computer, thereby simplifying the device.

As to claim 18, Walker clearly teaches display signal source being a display driver attached to a computer (202).

8. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masumoto in view of Dabbaj (U.S. Patent No. 4,958,150).

As to claims 31 and 32, note the discussion of Matsumoto above, Matsumoto teaches using piezoelectric as the actuators (see column 6, lines 55-56), but does not mention using solenoid actuators as recited in claim 31 nor pneumatic actuators as recited in claim 32. Dabbaj teaches using electromagnet (922) and solenoid coil (924) performing as actuators (column 6, lines 61-65. Dabbaj further teaches that "as an alternative to electromagnetic drive devices, electrostatic, piezoelectric, hydraulic, pneumatic or any other suitable drive arrangement may be used" (see column 9, lines 22-24). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have substituted the solenoid actuators and the pneumatic actuators as taught by Dabbaj because they are substituted each other (see column 9, lines 22-24 of Dabbaj).

9. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto in view of Makinouchi et al (U.S. Patent No 5,699,145).

Art Unit: 2675

As to claim 40, note the discussion of Matsumoto above, Matsumoto does not mention the control unit including a closed feedback control loop using a proportional integral differential algorithm. In same field of endeavor, Makinouchi teaches the control unit including components from the speed control 52 to position control system 55 constituted by conventional PID controller (proportional, integral and differential controller) (see column 15, lines 21-25). Makinouchi also teaches the driving control of the movement achieved by feedback control (see column 11, line 66 through column 12, line 3, column 14, lines 58-62). Thus, it is clear that Makinouchi teaches the control unit including a closed feedback control loop using a proportional integral differential algorithm. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the control unit including a closed feedback control loop using a proportional integral differential algorithm as taught by Makinouchi to the control unit of Matsumoto because the control unit of Makinouchi can measure a speed and calculate a position by integrating the speed, thereby the operation becomes more stable (see column 14, lines 18-22).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

van der Kuur (U.S. Patent No. 5,123,175) teaches a well-known linear variable differential transformer as well as capacitance displacement sensor.

McMurtry et al (U.S. Patent No. 5,374,125) to teach a well-known using linear gas lubricated bearing.


Art Unit: 2675


Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (571) 272-7772. The examiner can normally be reached on Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


C. Nguyen
September 29, 2005


Chanh Nguyen
Primary Examiner
Art Unit 2675